Commonwealth of Kentucky
Division for Air Quality

STATEMENT OF BASIS
WITH RESPONSE TO COMMENTS

TITLE V PROPOSED PERMIT # V-06-013
GENERAL MOTORS CORPORATION
BOWLING GREEN KENTUCKY
AUGUST 4, 2006
FROUGH SHERWANI, REVIEWER
SOURCE I. D.# 021-227-00005
SOURCE I. D.# 4109
ACTIVITY # APE20040002

Source Description:

General Motors Corporation owns and operates an automobile manufacturing facility located at 600 Corvette Drive in Bowling Green, Warren County, KY. Vehicle assembly consists of a body shop, paint shop, general assembly and remote or multiple locations vehicle assembly support functions.
The following applications were received from the source.

- September 16, 1996 Title V (Phase I)
- December 11, 1998 Title V (Phase II)
- August 31, 2004 Update to Title V
- August 31, 2004 (Electrocoat dip prime tank)

The source has the following permits

- Construction permit (C-79-100)
- Construction Permit (C-79-100 Revision 1)
- Construction Permit (C-82-20)
- Operating permit (O-85-02)
- Operating Permit (O-85-02 Revision 1)
- PSD permit (F-97-022)
- VS permit (VS-04-002)
- No permit required letter, issued on July 28, 2000.

COMMENTS:

On November 14, 1979 the source was issued construction permit (C-79-100) to satisfy the Accommodative State Implementation Plan (SIP).

The Source has requested that the Title V Permit be issued without the 20 jobs per hour limit. The Division researched the matter and found that the 20 jobs per hour limit is a product of the "Accommodative State Implementation Plan" (SIP). After discussing the issue with U.S. EPA, the Division decided to replace the 20 jobs per hour limit with equivalent limitations (8907 pounds of VOC per day and 5094 hrs of operation per year). The Division believes that the 8907 pounds of VOC per day limit combined with the 5094 hrs per rolling 12-month period operating limit is truly an equivalent replacement to the 20 jobs per hour limit. For additional details please refer to the GM letter dated November 17, 2005 (attached to this document).

Type of control and efficiency:

1. VOC Control Equipment **Regenerating Thermal Oxidizer (RTO)**
   To control VOC from Top coat oven, Primer Surfacer oven and Electrocoat Dip Prime oven

Destruction Efficiency	92.5% tested on August 25, 1995
Primary Fuel	Natural Gas
Secondary Fuel	Propane
Fuel Usage Rate	24.0 Million BTU per hr

2. Particulate Matter Control Equipment **Wet Scrubber**
   To control particulate matter from Final Repair, Primer Surfacer System and Top coat system.

Estimated Control Efficiency	90%

Emission factors and their sources:

A combination of material balances and AP-42 emission factors were used to estimate emissions.

Applicable regulations:

a. **401 KAR 52:020**, Title V Permits

b. **401 KAR 59:010**, New Process Operations (applicable to each affected facility associated with a process operation commenced on or after July 2, 1975);

c. **401 KAR 63:020**; Potentially hazardous matter or toxic substances, applicable to each affected facility which emits or may emit potentially hazardous matter or toxic substances;.

d. **401 KAR 51:017**; Prevention of significant deterioration of air quality;

e. **401 KAR 59:015**; New Indirect heat exchangers;

f. **401 KAR 59:225,** New miscellaneous metal parts and products surface coating operations. The affected facility, (EP 12, Prime Coat System) is exempt from Section 3 of regulation 401 KAR 59:225 if the VOC content of the coating is less than 0.36 kg/l of coating (three (3.0) lb/gal), excluding water or exempt solvent (E. S.) or both, delivered to applicators associated with color coat or first coat on untreated ferrous substrate.

g. **40 CFR Part 63, Subpart DDDDD** National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial and Institutional Boilers and Process Heaters

h. **40 CFR Part 63 Subpart IIII,** National Emission Standards for Hazardous Air Pollutants: Surface Coating of Automobiles and Light-Duty Trucks.
The automobile and light duty truck surface coating MACT (40 CFR part 63, subpart IIII)

regulates the hazardous air emissions (HAPs) from the surface coating of automobiles and light duty trucks.

The affected sources are electrodeposition primer, primer surfacer, topcoat, final repair, glass bonding primer and glass bonding adhesive operation coatings plus all coating and thinner used in the coatings. The MACT also regulates deadener, sealers and adhesives that are not part of the glass bonding system. In addition to the emission limits established at Section 63.3090 for the above mentioned sources, Section 63.3094 requires that work practice plans be established to minimize organic HAP emissions from the storage, mixing, and conveying of coatings, thinners, and cleaning materials used in, and waste materials generated by, all coating operations.

The MACT at Section 63.3082 (c) allows the option to make any coating operation that would otherwise be subject to the miscellaneous metal parts and products MACT (Part 63 Subpart MMMM) or the surface coating of plastic parts and products MACT (Part 63 Subpart PPPP) subject to Subpart IIII instead, if that coating operation applies coatings to parts intended for use in new automobiles and light duty trucks.

The source has chosen this option so that all aspects of the electrodeposition primer, primer surfacer, and topcoat operations will be regulated by Part 63, but under the Subpart IIII MACT.

For an affected source, Section 63.3083(b) defines the compliance date as April 26, 2007. Section 63.3110 (b) states that existing sources that have previously submitted notification of applicability pursuant to section 112(j) of the CAA are not required to submit an initial notification except to identify and describe all additions to the affected source made pursuant to Section 63.3082(c). The source submitted the 112(j) notification to the Division office on April 29, 2002**.**

For capture system efficiency (Section 63.3165), the source must use the procedures and test methods in this section to determine capture efficiency as part of the performance test required by §63.3160. For purposes of this subpart, a spray booth air seal is not considered a natural draft opening in a PTE or a temporary total enclosure provided the source demonstrates that the direction of air movement across the interface between the spray booth air seal and the spray booth is into the spray booth. Also for purposes of this subpart, a bake oven air seal is not considered a natural draft opening in a PTE or a temporary total enclosure provided the source demonstrates that the direction of air movement across the interface between the bake oven air seal and the bake oven is into the bake oven. The source may use lightweight strips of fabric or paper, or smoke tubes to make such demonstrations as part of showing that the capture system is a PTE or may conduct a capture efficiency test using a temporary total enclosure. The source cannot count air flowing from a spray booth air seal into a spray booth as air flowing through a natural draft opening into a PTE or into a temporary total enclosure unless the source elects to treat that spray booth air seal as a natural draft opening. The source cannot count air flowing from a bake oven air seal into a bake oven as air flowing through a natural draft opening into a PTE or into a temporary total enclosure unless it elects to treat that bake oven air seal as a natural draft opening.

EMISSION AND OPERATING CAPS DESCRIPTION:

Limits from previous permits:

1. The hours of operation of the source shall not exceed 5094 per rolling 12-month period.
2. VOC source wide emissions shall not exceed 8907 pounds per day.
3. The facility shall not produce more than 76,410 vehicles per rolling 12-month period.
4. The source wide coating usage shall not exceed 525,773 gallons per rolling 12-month period.
5. The minimum Destruction Efficiency for the Regenerating Thermal Oxidizer (RTO) must be maintained at 80%.
6. Source wide emissions of VOCs shall not exceed 1260 tons per rolling 12-month period.
7. The permittee shall not discharge or cause to be discharged into the atmosphere, emissions from coating which exceed the following VOC content

a.	Body Prime System:	5.29 lb/gal of coating
b.	Top Coat System (Body), Metallic Colors:	5.3 lb/gal of coating
c.	Top Coat System (Body), Solid Colors:	5.3 lb/gal of coating
d.	Top Coat System, (Body) Clear Colors:	4.4 lb/gal of coating
e.	Top Coat System (Bumper), Metallic Colors:	5.3 lb/gal of coating
f.	Top Coat System (Bumper), Solid Colors:	5.3 lb/gal of coating
g.	Top Coat System (Bumper), Clear Colors:	5.0 lb/gal of coating
h.	Black out System:	4.2 lb/gal of coating

all above limits excluded water or exempt solvent (E. S.), or both, and are as delivered to the applicator.

401 KAR 59:010

8. All affected facilities were constructed after the classification date (July 2, 1975). In addition, all these affected facilities are below 0.5 ton/hr (on a potential basis). Therefore, for emission from a control device or stack, no person shall cause, suffer, allow or permit the emission in to the open air of particulate matter (PM) from any affected facility in excess of 2.34 lb/hr.
9. The permittee shall not cause, suffer, allow, or permit any continuous emission into the open air from a control device or stack associated with any affected facility which is equal to or greater than twenty (20) percent opacity.

401 KAR 59:015

10. Particulate matter emissions from EP 35 (Hot Water Generator# 1) shall not exceed 0.56 lb/mmBTU actual heat input; per three hour average;
11. Particulate matter emissions from EP 36 (Hot Water Generator# 2) shall not exceed 0.45 lb/mmBTU actual heat input, per three hour average;
12. Particulate matter emissions from EP 37 (Hot Water Generator# 3) shall not exceed 0.41 lb/mmBTU actual heat input, per three hour average;
13. Sulfur dioxide emissions from EP 35 shall not exceed 3.0 lb/mmBTU actual heat input;
14. Sulfur dioxide emissions from EP 36 shall not exceed 2.07 lb/mmBTU actual heat input
15. Sulfur dioxide emissions from EP 37 shall not exceed 1.71 lb/mmBTU actual heat input.

From BACT Determination;

16. VOC emissions from EP 16 (Miscellaneous Operations) shall not exceed 5.5 pounds/vehicle plus 106.9 tons/ per rolling 12-month period.

401 KAR 59:225;

17. The affected facility, (EP 12, Prime Coat System) is exempt from Section 3 of regulation 401 KAR 59:225 if the VOC content of the coating is less than 0.36 kg/l of coating (three (3.0) lb/gal), excluding water or exempt solvent (E. S.) or both, delivered to applicators associated with color coat or first coat on untreated ferrous substrate.

40 CFR Part 63 Subpart IIII;

18. The combined organic HAP emissions from the electrodeposition primer, primer surfacer, topcoat, final repair, glass bonding primer, and glass bonding adhesives operations must meet an emission limit of 0.6 pounds of HAPs per gallon of coating solids deposited during each month

    or

    The combined organic HAP emissions from the electrodeposition primer, primer surfacer, topcoat, final repair, glass bonding primer, and glass bonding adhesives operations must meet an emission limit of 1.1 pounds of HAPs per gallon of coating solids deposited during each month if
    i. each individual material added to the electrocoat system contains no more than 1.0 percent by weight of any organic HAP and no more than 0.10 percent by weight of any organic HAP which is a OSHA – defined carcinogen or
    ii. The oven control device has a destruction or removal efficiency of at least 95 percent.
19. The monthly average of organic HAP emissions from all adhesives and sealer materials other than materials used as components of glass bonding systems is limited to 0.01 pounds per pound of adhesive and sealer material used.
20. The monthly average of organic HAP emissions from all deadener materials is limited to 0.01 pounds per pound of deadener material used.

40 CFR Part 63, Subpart DDDDD
For Emission Points 36 and 37

21. **40 CFR Part 63, Subpart DDDDD** National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial and Institutional Boilers and Process Heaters

§ 63.7506 (b)

EP 36 and 37 are classified as large liquid fuel units. These emission points are subject to only the initial notification requirements in § 63.7545(b) (i.e., they are not subject to the emission limits, work practice standards, performance testing, monitoring, SSMP, site-specific monitoring plans, recordkeeping and reporting requirements of this subpart or any other requirements in subpart A of this part). The source submitted the notification on February 7, 2005.

CREDIBLE EVIDENCE:

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has only adopted the provisions of 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12 into its air quality regulations.

PUBLIC REVIEW:

On May 23, 2006 the public notice on availability of the draft permit and supporting material for comments by persons affected by the plant was published in *Daily News*, in Bowling Green, Kentucky. The public comment period ended on May 22, 2006. During this time comments were received from the source. These comments are incorporated in the proposed permit. The U.S. EPA has 45 days to comment on this proposed permit.

The Division has updated the Standard for Particulate Matter (401 KAR 59:010 Section 3(2)) on page 6.

The Division has added the following specific reporting requirements on page number 26, Section D 9.

a. Monthly hours of production off final line.
b. The monthly pounds of VOC emissions under EP 5, 8, 12, 13, 16, 35, 36, 37, and 38 and monthly production days
c. Monthly vehicles produced and rolling 12-months total vehicles produced.
d. Monthly coating usage and rolling 12-month total coating usage.
e. The total pounds of VOC per month in EP 5, 8, 12, 13, 16, 35, 36, 37, 38 and Insignificant Activities (See Section C) added to the previous 11 months pounds of VOC and divided by 2000 pounds per ton.

Comments from General Motors Corporation and Division's Responses

Comment 1:
Add ""The term "and exempt solvents", in respect to water, in the specific record keeping below in intended to include only water which is contained in the materials added to the electrocoat tank"" on page 4, Section B 4.

Division's Response:
Division has changed the permit to reflect comment.

Comment 2:
Delete "The date of each application for each adhesive, coating, or solvent " on page number 4, Section B 5.

Division's Response:
This condition was taken directly from Regulation **401 KAR 59:225, New miscellaneous metal parts and products surface coating operations**. The condition is left as it is.

Comment 3:
Add “Established by Auto MACT” at description of Emission Point 13, Final Repair on page 5.

Division’s Response:
Division has changed the permit to reflect comment by adding the specific section from (40 CFR Part 63 Subpart IIII Section 63.3161(g)).

Comment 4:
Add “or equivalent documents ” on page 6, Section B 2 b Emission Limitations, Compliance Demonstration Method.

Division’s Response:
Division has changed the permit to reflect comment.

Comment 5:
Delete “The quantity and description of surface preparation, cleanup, or washup solvent (including exempt compounds) used and the VOC content of each” on page 8, Section B 5 a 3 Specific Recordkeeping Requirements.

Division’s Response:
Division has changed the permit to reflect comment.

Comment 6:
Delete “and surface preparation, cleanup, or washup solvent (including exempt compounds)” on page 8, Section B 6 Specific Reporting Requirements.

Division’s Response:
Division has changed the permit to reflect comment.

Comment 7:
Fix the typo “and” on page number 17, Section B c ii.

Division’s Response:
Division has changed the permit to reflect comment.

Comment 8:
Fix the typo “63.6” and add “and 63.3130(i) to (o) if control devices are used to achieve compliance”
on page 17, Section B c vii.

Division’s Response:
Division has changed the permit to reflect comment.

Comment 9:
Replace the word “used for” with “selected in the” on page 18, Section B 6 a 4.

Division’s Response:
Division has changed the permit to reflect comment

Comment 10:
Replace the word “specified” with “selected, the” on page 19, Section B 4 iv.

Division’s Response:
Division has changed the permit to reflect comment.

Comment 11:
Replace “Emission Points 34, 35, and 36” with “Emission Points 35, 36, and 37” on page 20, Section B.

Division’s Response:
Division has changed the permit to reflect comment.

To make the emission points numbers consistent with other units on page 22, the Emissions Point “37” has been changed to “38”.

Comment 12:
Replace “35, and 36” with “36, and 37”, on page 20, Section B b.

Division’s Response:
Division has changed the permit to reflect comment.

Comment 13:
Replace “63.9(b)” with “§ 63.7545(b)” on page 20, Section B b.

Division’s Response:
Division has changed the permit to reflect comment.

Comment 14:
Replace “34, 35, and 36” with “35, 36 and 37” on page 21, Section B 2 a 1, 2 and 3.

Division’s Response:
Division has changed the permit to reflect comment.

Comment 15:
Replace “34, 35, and 36” with “35, 36 and 37” on page 21, Section B 2 b 1, 2 and 3.

Division’s Response:
Division has changed the permit to reflect comment.

Comment 16:
Delete “If the source alters process rates, material formulations, or any other factor that would result in an increase of toxic emissions or the addition of toxic emissions not previously evaluated by the Division, the source shall submit the appropriate application forms pursuant to 401 KAR 52:020, Section 3(1)(a), along with modeling to show that the facility will remain in compliance with 401 KAR 63:020” on page number 25, Section D3.

Division’s Response:
This regulation and the Compliance Demonstration Method were removed from this permit

Comment 17:
Delete “34” on page 25, Section D 5 a.

Division’s Response:
Division has changed the permit to reflect comment. To make the emission points numbers consistent with other units on page 25, Section D 4a the “Emissions Point 38” has been added.

Comment 18:
Delete “(Corvettes and Cadillac)” on page number 26, Section D6.

Division’s Response:
Division has changed the permit to reflect comment.

Comment 19:
“General Motors position that there should either be no VOC tonnage limitation or the limitation should be 1260 tons per year” on page 26, Section D 9. In, addition GM clarified comment 19 by the following statement that the Division has received through an email on June 15, 2006.

----Original Message-----
From: michael.d.zielke@gm.com [mailto:michael.d.zielke@gm.com]
Sent: Thursday, June 15, 2006 10:38 AM
To: Shewekah, Rick (EPPC DEP DAQ)
Subject: Some talking points that might be helpful on the 1260 ton issue
call to EPA
Importance: High

Historical permit background on General Motors Corporation Bowling Green Assembly plant

Original construction permit C - 79-100 was issued on 11-14-1979. This permit contained a VOC tonnage limit of 719 tons.

Original construction permit C-79-100 (Revised) was issued on September 12, 1984. It should be noted when the 1979 permit was issued the very innovative design of the vehicle was an industry first and processing was also innovative thus resulting in a learning curve for quantifying emissions. This is recognized in the 1979 permit condition language.

In the 1984 construction permit revision C-79-100 (Revised), the individual coating limits carried over, however the tonnage limitation was deleted and new limitations of 76,410 vehicles per year and a plant wide coating usage limits of 525,773 gals/year were imposed. The 525,773 gallon per year limit coupled with the individual VOC limits for the coating directly results in an annual emissions of 1260 tons of VOC per year as demonstrated in GM's data at the time the 1984 revised construction permit was issued.

The preliminary and final determiations made as part of the 1984 permit revision (in which EPA was involved) clearly defines the emissions as 1260 tons of VOC per year and states that these are LAER emission limitations. It further states the the area was attainment for the piror three years and that monitoring data shows no advese effect from the plant.

The new proposed short term limit of 8907 lb of VOC per day is also derived from the 1260 tons of VOC per year. It makes no sense to issue a permit in 2006 that does not recognize the 1260 tons per year that is inherent in the 1984 construction permit. As stated earlier, the 1984 permit limits gallons per year and lb of VOC per gallon, the product of which is 1260 tons of VOC per year.

The proposed draft Title V permit should either contain a long term limit of 1260 tons not 719 or the tonnage limit should be removed since the gallons per year, lb VOC per gallon, 76,410 vehicles per year, 8907 lb VOC per day and 5094 hour per year provide more than sufficient short term thruput limitations to control the annual emissions.

Division's Response:
Division has changed the permit to reflect comment.

Comment 20:
Add "If the most recent RTO performance test is no longer valid," on page number 27, Section E B1.

Division's Response:
Division has added "If the most recent RTO performance test is more than five (5) years old" to the condition language.

Comment 21:
Replace the word "thermaocouple " with "thermal couple" on page number 27, Section E B 5.

Division's Response:
Division has changed the permit to reflect comment.

Comment 22:
Delete "." on page 28 Section E C 4.

Division's Response:
Division has changed the permit to reflect comment.

Comment 23:
Add word "or" on page 30, Section F 2.

Division's Response:
Division has changed the permit to reflect comment.